

## **REMARKS**

Claims 7-12, 14, 26, 28-31, and 44-52 were previously pending, with Claims 26, 28-31, and 44-52 under examination. Claims 7-12 and 14 have been cancelled, and Claims 53-59 have been added as discussed herein. Applicants submit that the cancellation of a claim makes no admission as to its patentability and reserve the right to pursue the subject matter of the cancelled claim in this or any other patent application.

Support for the amendments can be found throughout the specification and claims as filed. More particularly, support can be found, *e.g.*, in Example 1 of the specification as filed. No new matter has been added by the amendments. Upon entry of the amendments, Claims 26, 28-31, and 44-59 are presented for examination.

### **Rejections under 35 U.S.C. § 112, First Paragraph – Enablement**

The Examiner has maintained the rejection of Claims 26, 28-31, and 44-52 under 35 U.S.C. § 112, first paragraph, as allegedly failing to provide enablement for the full scope of the claims. The Examiner asserts that the claims encompass CAMK2a expression in all forebrain cells, and that “[s]uch expression can have unpredictable effects on the mouse such that the claimed phenotypes are not obtained or additional phenotypes [sic] occur such that one of skill in the art would not know how to use the mouse without undue experimentation.” *Advisory Action* at p. 2.

Applicants respectfully traverse. As discussed in Applicants’ response of April 15, 2011, “[a]s long as the specification discloses at least one method for making and using the claimed invention that bears a reasonable correlation to the entire scope of the claim, then the enablement requirement of 35 U.S.C. 112 is satisfied.” *M.P.E.P. § 2164.01(b)*, citing *In re Fisher*, 427 F.2d 833 (CCPA 1970). The evidence provided by an applicant “need not be conclusive but merely convincing to one skilled in the art.” *Id.* (underline in original). Applicants may cite references to show what one of skill in the art knew at the time of filing the application. *See id.*

The instant Specification teaches one of skill in the art to generate a genetically modified mouse lacking Shp2 expression in at least a portion of forebrain cells. In fact, Example 1 of the instant Specification provides a working example for generating such a mouse by breeding Shp2<sup>flox/+</sup> mice with CamK2a-Cre transgenic mice, and evidence that such mice exhibit a

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phenotype of interest. *See Specification* at Example 1, paragraphs [0031]-[0037], and Figures 1-7. As such, Applicants have provided convincing evidence that one of skill in the art would have been able to make and use the claimed subject matter without undue experimentation. In addition, Applicants again submit that one of skill in the art at the time of filing would have known other forebrain-specific promoters (*i.e.*, other than CamK2a) and other tools for homologous recombination (*i.e.*, other than the Cre-loxP system). *See, e.g., Mol Ther* 3: 809-15 (2001); *Gidoni et al., Transgenic Res* 10: 317-28 (2001); *Hoang et al., Gene* 212: 77-86 (1998); *Gao et al., PNAS* 101: 4661-66 (2004); and *Backman et al., Nat Genet* 29: 396-403 (2001). One of skill in the art could have therefore predictably arrived at the claimed phenotypes using the teachings in the Specification and knowledge in the art at the time of filing. As such, Applicants submit that it is not necessary to narrow the claims to recite CamK2a-expressing cells or a Shp2<sup>fl<sub>ox</sub></sup> allele as asserted by the Examiner.

For at least these reasons, Applicants submit that the full scope of the claims is enabled, and therefore respectfully request that the Examiner withdraw the rejection of Claim 26 and claims dependent therefrom (*i.e.*, Claims 28- 31 and 44-52) under 35 U.S.C. § 112, first paragraph.

#### **New Claims 53-59**

Applicants have added new Claims 53-59, which recite a mouse in which “calcium/calmodulin-dependent protein kinase II alpha (CamK2a)-expressing cells ... have been genetically altered to lack expression of the endogenous Shp2 gene such that no Shp2 is expressed in the CamK2a-expressing cells.” Further, Claim 58 recites a genetic alteration that “comprises a Cre-loxP-mediated truncation of the Shp2 gene.” Applicants submit that the full scope of new Claims 53-59 is enabled in light of the teachings of the Specification and the knowledge in the art at the time of filing of the instant application, and therefore respectfully submit that the claims are in condition for allowance.

#### **No Disclaimers or Disavowals**

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this

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application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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